

1.933
EL242UNITED STATES DEPARTMENT OF AGRICULTURE
Rural Electrification Administration
Washington

ELECTRICITY ON THE FARM AND FOOD FOR DEFENSE

On approximately 2,000,000 of the nation's farms electricity offers convenient, clearly defined and safe short-cuts toward attainment of Agriculture's food production goal.

Vast reserves of untapped production capacity may be exploited at low cost through proper use of electrical equipment on electrified farms. Consumer value of many products may be greatly enhanced through more efficient handling along the rural electrification assembly line, from farm to processing plant to the grocer's shelves or the quartermaster depot. Larger returns in production and profits per man-hour of labor expended may be realized by the farmer who wisely uses "wired help."

Statisticians of the Rural Electrification Administration have analyzed figures compiled by other agencies of the Department in a survey which throws into bold relief some promising possibilities.

For example, a census of the nation's farms reveals that in some sections of the country where milk production is relatively high only a small percentage of the milk finds its way into the market as whole milk. Consequently, these sections are not contributing greatly to the supply of dairy foods in which the threat of a shortage is most serious.

In the seven states of the West North Central Area, from Missouri to the Dakotas, where feed is plentiful, more than one-third of all the farms have from 6 to 10 cows per farm. Yet, of all the milk produced by the farms in this group, only 6 percent is marketed as whole milk. Of the total output, 76 percent is skimmed or separated, the cream marketed and the rest of the product--which is so greatly needed by our own people and our friends in other lands--fed to the chickens and the pigs.

The four- and five-cow farms of this area market only four percent of their production as whole milk. Farms with more than 10 cows, located principally within reach of milk routes in the towns and cities, market a larger percentage. But even in that group with from 11 to 20 cows to the farm, only 18 percent is marketed as whole milk.

Difficulties in handling the milk between the cow and the market places are largely responsible for this discrepancy between marketing practices and actual needs in regard to dairy products.

Rural Electrification Administration specialists have proposed practical ways in which electricity on the farm and in rural communities may be utilized toward overcoming these difficulties.

To get most of the milk now being skimmed to processing plants in suitable condition for conversion into cheese and dried and condensed milk, it needs to be cooled to a temperature at which bacterial growth is retarded. The only practical way to obtain such temperatures is with electrically driven mechanical coolers. The REA has just succeeded in getting manufacturers of milk coolers to produce a one-can cooler selling at well under a hundred dollars. The difference between returns on cream of inferior quality and on whole milk kept fresh and clean may pay for a cooler in a single season.

Another type of farm that is not producing to the limit of its present capacity is that which keeps a small herd of grade or dual-purpose cows primarily for beef-growing purposes. In contrast with the four- and five-cow farms of the West North Central Area, where only 18 percent of the milk produced is required for home use, farms with herds of the same size in the South Central States use 58% of their total milk production at home with probably no larger per capita consumption on the farm.

Improper feeding and indifferent performance of the sometimes distasteful chore of milking explain this glaring difference. On many farms where milking is not considered as a money-making enterprise, or where there may be insufficient labor to spare from other farm tasks, a low-cost portable electric milking machine would prove a profitable investment.

The experience of the family of Carl Pearson of Pine Bluffs, Wyoming, may impress farmers who keep eight or ten or more cows, but seldom market any milk.

A year ago, when the REA system at Pine Bluffs wired the Pearsons' home for electricity, they were regularly milking only one cow of their herd. This one cow supplied milk for the family table. But when the REA came along, the Pearsons looked about the farm for a new source of petty-cash income with which to meet the payments on electrical equipment and pay their monthly bills for current.

Milking more of the recently freshened cows of their herd was the solution. They bought an electrical milking machine so that no additional labor would have to be employed, nor the family overworked. Today, the Pearsons are marketing the milk from fourteen cows.

What the Pearsons have done, tens of thousands of families getting electric service from REA systems can do with profit to themselves and with creditable service to their country in a crisis in which food may be the deciding factor.

In many other ways electricity may contribute to increased milk production. Electric lights in the barn save labor at feeding and milking time. REA engineers have estimated that on a typical farm of 120 acres, with 16 milk cows, the labor-saving made possible by applications of electric power to farm chores and harvesting operations amounted to 1,242 man-hours or 124 ten-hour working days. This is of importance in more ways than one. It is proof that electricity can stave off a serious labor shortage on the properly electrified farm.

Proper grinding of feed for dairy cattle is conceded by dairy experts to increase production by 10 to 20 percent and to increase the efficiency of the feed used by a like amount. Balanced rations may be more economically prepared on the farm with electrically operated grinding and mixing machinery.

Cows that have drinking water kept before them continuously produce 3.5 to 4 percent more milk than those watered twice a day and 6 to 10 percent more than those watered once a day, according to tests made by Iowa and Connecticut Agricultural Experiment stations. The electric pump is the cheapest way to keep a continuous supply of fresh water in the stanchions.

In the production of pork, use of a simple pig brooder which can be easily constructed by any farmer at low cost may save the lives of many pigs that would be lost during winter months under the old "root hog or die" methods. Records kept on such brooders in Idaho and Indiana indicate that losses in winter litters were reduced 50 percent, or about one pig per litter farrowed. Plans for the home-made brooder may be obtained from REA.

MAR 5 1946

REA plans are also available for low-cost electric chick brooders. Farmers getting REA electric service are being urged to use their brooders during the fall and winter months to add more layers to their flocks next spring and to have broilers for market during the winter.

Electric lights and water-warmers in the hen-house during the winter will get more eggs from the same number of hens. The average increase under such conditions is 20 eggs per hen. Ultra-violet lights will help to keep the birds healthy.

Looking toward the possible need for more vegetables next year, the REA has plans for a sprinkler system which may be assembled at a cost of around \$10 for irrigating a vegetable garden of one-quarter of an acre. A sprinkler of this size can put one inch of water on a quarter of an acre in one night, at an average cost of 25 cents for current.

On many farms, irrigating the vegetable garden during the dry weather may more than double production from the same acreage.

This is important, especially in farm areas within marketing distance of urban centers. Supplies of fresh vegetables, locally grown, will cut down long-distance transportation requirements and lessen the drain upon reserves of canned and preserved stocks.

However, more canning and preserving of foods is possible in rural areas having electric service. Sections that are not now within easy reach of markets for the perishable products of the farm probably should have more processing plants and cold-storage locker plants.

The manager of a Wisconsin cheese factory on the lines of an REA system reports that electricity has reduced his operating expense by 40 percent, and that his plant now produces a higher quality of cheese because of the more thorough mixing possible in electrically operated machines.

Patrons of a cold-storage locker plant run by an REA-financed co-op in Ohio report that when they butchered and cured their meat on the farm, losses from spoilage often used

to run as high as 25 percent. Use of the storage plant, they say, has reduced this loss to nil.

Dehydrators installed in food-preparation centers which the Rural Electrification Administration is helping to establish in rural schools on REA lines may be used by farm families for the drying of fruits and vegetables for home consumption, and perhaps for a part of the surplus which cannot be marketed fresh. Through demonstrations at these proposed centers, proper use of other electrical appliances useful in production and conservation of food products may be learned.

For processing on a commercial scale, the Rural Electrification Administration and the power systems it has financed offer the benefit of their experience to the rural community interested in establishing a processing plant and to other governmental agencies which may be in position to finance such an enterprise. Location of processing centers closer to production centers may greatly reduce losses in the handling of perishable products between the farm and the consumer, and thus add to the total of food supplies.

Workers in other Departments of U. S. D. A. who may be in closer touch with production and marketing problems will find the entire personnel of the Rural Electrification Administration and REA systems ready to cooperate with them at all times.

